

REMARKS/ARGUMENTS

The office action of April 6, 2007 has been carefully reviewed and these remarks are responsive thereto. Reconsideration, entry of the above amendments and allowance of the instant application are respectfully requested. Claims 1-53 remain in this application.

Section 101 Rejection

Claims 1-53 stand rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. Applicants respectfully traverse this rejection.

Independent claims 16 and 47, each call for “the end-user computer system presenting simulation results via the graphical user interface of the end-user computer system”. As such, applicants submit that independent claims 16 and 47, as well as their respective depending claims (17-21 and 48), all explicitly recite a useful, concrete and tangible result that has real world value as the results of the simulation are presented on the graphical user interface of the end-user computer system.

Applicants submit that independent claims 1 and 43 each are directed to a system for providing a computer simulation system model and squarely fall within statutory subject matter as a computer simulation system model has well recognized utility. In any event, applicants have amended these claims to further clarify the real world application and tangible result which can be generated by such a system by adding that the “results of running the simulation system model using the information in the simulation content file are presented to the end-user via the graphical user-interface means.” Also, independent claims 32 and 53 have been amended to add this feature. Similarly, independent claims 22 and 49 have been amended to recite that “the computer-implemented simulation player is adapted to present results of running the simulation systems model using the information in the simulation content file, via the graphical user-interface means.” Claims 1, 22, 32, 43, 49 and 53 as amended, and their respective dependent claims (2-15, 23-31, 33-42, 44-46, and 50-52), all produce a useful, concrete and tangible result and constitute statutory subject matter. Accordingly, withdrawal of the section 101 rejection is

respectfully requested. In the event that any issues remain regarding section, the Examiner is requested to contact the undersigned to address the matter efficiently and expeditiously.

The independent claims as well as others have been amended in an effort to clarify that the invention produces a useful, tangible and concrete result. For example, claims 1 and 43 are directed to a system for providing a computer simulation system model and claims 16, 22, 47 and 49 provide a computer simulation system model. Applicants submit that all the claims produce a useful, tangible and concrete result.

Prior Art Rejections

Claims 1-6, 8-27 and 29-53 stand rejected under 35 U.S.C. § 103(a) as being obvious over Reutter “An Efficient Reuse System for Digital Circuit Design”, 1998 (hereinafter “Reutter”). Claims 7 and 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reutter in view of Hauck et al., “Data Security for Web-based CAD,” DAC 98, June 15-19, 1998, San Francisco, CA, pp. 788-793 (hereinafter “Hauck”). Applicants respectfully traverse these rejections.

Reutter relates to digital circuit design using reusable components, now widely known in the semiconductor industry as “IP blocks”, “IP cores” or simply, (as in Reutter) “IP”. IP cores may be used as building blocks within larger semiconductor integrated circuit designs. More particularly, Reutter is directed to the problem of maximizing reusability of IP cores. This problem is addressed by providing a repository (database) of IP blocks having appropriate content and access rules.

The action alleges that Reutter discloses all the features of the independent claims, but for a simulation player including GUI means for displaying to an end-user a schematic diagram of the simulation system model created by the designer. The action however asserts that it would have been obvious to modify Reutter to include such a feature. Notwithstanding whether such a modification is even appropriate, Reutter is deficient in other respects which will be addressed below.

To show the feature of creating a simulation content file that includes information describing the simulation system model as recited in independent claims 1, 16, 22, 43, 47, and 49 and ostensibly the feature of “a simulation content file that includes information describing a ...

simulation system model created by a designer” as recited in independent claims 32 and 53, the action points to section 2.2 of Reutter. Each IP block in the database has an associated “test design”, which is “a dummy design environment with an example integration of the IP” (Reutter section 2.2). The action equates this test design with the “simulation system model” as claimed. Applicants respectfully submit that this alleged correspondence is approximate at best, because the test design is only usable in conjunction with the scripts provided for simulation and synthesis, which the action equates with the “creating a simulation content file that includes information describing the simulation system model” as recited in claims 1, 16, 22, 43, 47, and 49, and similarly recited 32 and 53. Applicants further submit that this asserted correspondence is inconsistent with the overall disclosure of Reutter.

It will be appreciated that in one aspect, the claimed invention is configured to create a redistributable, self-contained, simulation content file, which can be read and run by a computer-implemented simulation player. As such one of the advantages that may be realized is that the end-user does not have to possess a full-featured Computer Aided Design (CAD) software package. In significant contrast, Reutter does not contemplate creating or distributing a self-contained content file, but rather is intended for use by designers having full-featured CAD software packages capable also of executing the various reuse, simulation, synthesis and design-flow scripts. Applicants submit that Reutter’s use of CAD software packages and executing the various scripts in no way teaches or suggests creating a simulation content file as claimed in claims 1, 16, 22, 43, 47, and 49 or “a simulation content file that includes information describing a ... simulation system model created by a designer” as recited in claims 32 and 53.

Moreover, the action has failed to identify a teaching or suggestion in Reutter of the simulation player reading the simulation content file as called for in claims 1, 22, 32, 43, 49 and 53 or providing the simulation content file to an end-user computer system as recited in claims 16 and 47. Indeed the action reads into the prior art the distinct steps of creating a “content file” from these various separate elements, and then reading the “content file” into a “simulation player”, when no such steps are disclosed, suggested, or even necessary in the context of Reutter.

Furthermore, the action contends that sections 3 and 4.1 of Reutter disclose running the simulation system model while prohibiting “the end user from modifying the simulation model

by adding or moving any of the component models, subsystem models, or interconnections of the simulation system model” as called for in claims 1, 16, 22, 32, 43, 47, 49 and 53. In fact, these sections of Reutter are not concerned with operations performed by the end-user CAD system, but rather are directed solely to issues of database access and database management to facilitate reuse of IP blocks. As disclosed by Reutter, a person with “user” access is prohibited from rewriting a modified IP block to the database once it has been “checked”. Tellingly however, the following actions are clearly permitted:

- modifying IP blocks outside of the database (*i.e.* downloaded IP blocks);
- rewriting modified IP blocks that are “unchecked”; and
- writing new IP blocks (which may presumably be adapted from existing IP blocks, or be totally new designs) to the database, wherein such new IP blocks are initially entered with a status of “unchecked”.

From Reutter, it is apparent that once a person with “user” access to the database has selected and downloaded an IP block, using the query module exemplified in Figure 8, he or she is then able to perform various verifications before *integrating the IP block into their own designs* as described in section 4.1. Reutter is wholly silent with respect to the details of the CAD tools utilized for this purpose, and thus there is no teaching or suggestion in Reutter of prohibiting the end user from modifying the simulation model by adding or removing any of the component models, subsystems models or interconnections as recited in the claims. Moreover, as claimed, the simulation player via the graphical user interface and/or the simulator prohibits the end-user from modifying the simulation model by adding or removing any of the component models, whereas Reutter discloses only access control methods implemented at the interface to a database.

Applicants submit that the natural and obvious inference to be drawn from Reutter is that its purpose is to enable and support the reuse of IP blocks in new designs. Fundamentally, therefore, the end user must be able to integrate the IP blocks into their own designs by appropriate manipulation and/or modification of the test designs. Not surprisingly, this is precisely the process that Reutter appears to be describing. In stark contrast, in practice of the claimed invention, the end user is prohibited from using subsystems and components (including IP blocks) included within the system simulation model in their own designs. In view of the above, Reutter neither teaches nor suggests prohibiting “the end user from modifying the

simulation model by adding or removing any of the component models, subsystem models or interconnections of the simulation system models” as recited in independent claims 1, 16, 22, 32, 43, 47, 49 and 53.

In view of the foregoing, independent claims 1, 16, 22, 32, 43, 47, 49 and 53 are patentably distinct from Reutter. Each of claims 2-6, 8-15, 17-21, 23-27, 29-31, 33-42, 44-46, 48 and 50-52 ultimately depends from one of the aforementioned independent claims, and is considered patentably distinct from Reutter for the same reasons as their ultimate base claim, and further in view of the novel and non-obvious features recited therein.

Claims 7 and 28 stand rejected over Reutter in view of Hauck. Claim 7 depends on claim 1 and claim 28 depends on claim 22. Hauck however fails to overcome the deficiencies of Reutter identified with respect to claims 1 and 28. As such, notwithstanding the propriety of combining Reutter and Hauck, the combination does not result in the inventions of claims 22 and 28. For at least this reason, claims 22 and 28 are patentably distinct from the combination of Reutter and Hauck.

CONCLUSION

It is believed that no fee is required for this submission. If any fees are required or if an overpayment is made, the Commissioner is authorized to debit or credit our Deposit Account No. 19-0733, accordingly.

All rejections having been addressed, applicants respectfully submit that the instant application is in condition for allowance, and respectfully solicit prompt notification of the same.

Respectfully submitted,

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